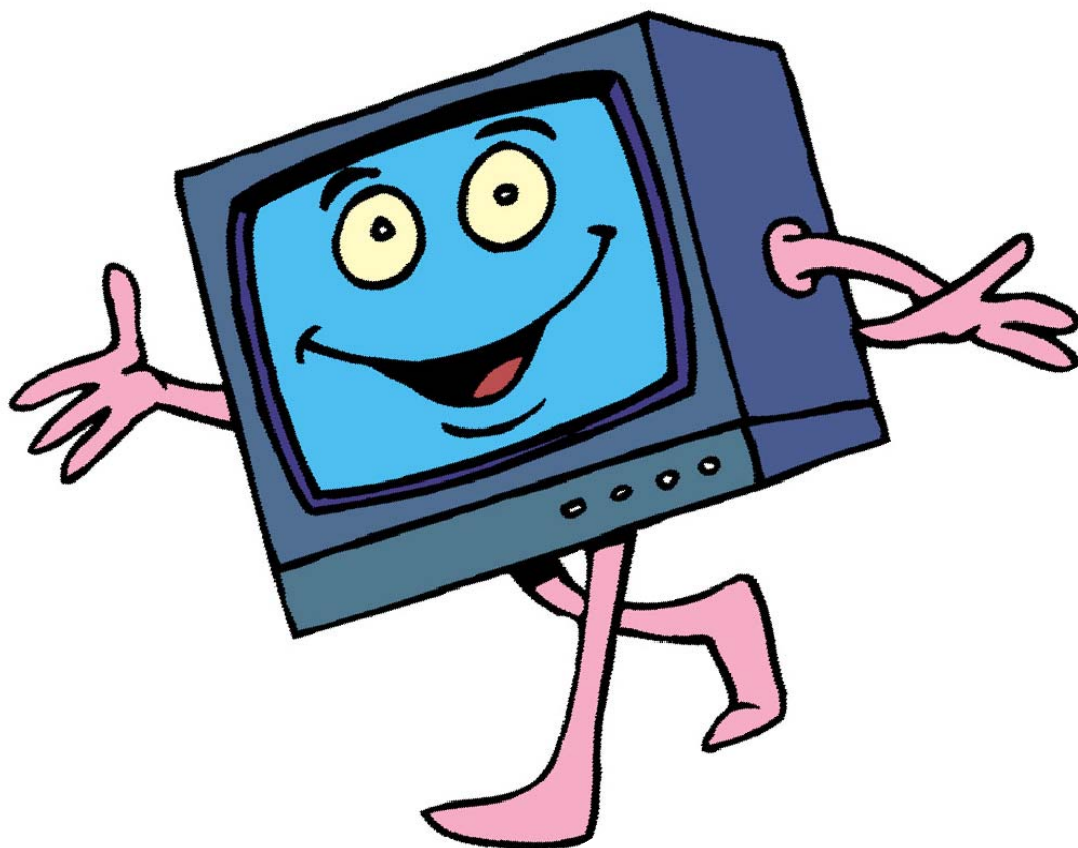


Paediatric Telemedicine

Intern II User Guide & Project Guidelines

Yorkhill Division
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Getting Started

The Intern II

The Intern II is a high quality video conferencing system. It utilises 15" flat screen LCD displays creating a completely self-contained system. Using an `IV' stand design ensures a high level of stability and maintains a small footprint, allowing ease of mobility within the ward.

The unit houses a Tandberg 880 video conferencing unit, providing the same functionality as more traditional fixed systems. This also supports the connection of multiple peripheral devices such as computer equipment, ultrasound devises and hand held cameras by way of a simple video or computer cable.



Power and comms connections

Connecting the System

The power and communications connections for the system are located on the base unit. After moving the system to the desired locations connect the 13 amp power flex.



Communication for the system will be provided by either 3 ISDN telephone lines or via a single Ethernet computer connection. Which type of connection you use depends on the site.

If using ISDN, connect the three ISDN cables to the ISDN outlets provided. Please ensure that the cables are connected in the right order. The cables are labelled ISDN 1, ISDN 2 and ISDN 3 and should be installed from left to right.



If using a computer connection, plug the patch lead into any working data point. If you need to connect the system in an area where there are no active data points contact your local IT department to have one enabled.

If you are planning to send ultrasound images, connect the ultrasound machine. Connect the cable provided to the video out socket on the ultrasound machine. Normally, the coax connector plugs into a socket similar to this one.



Video Out Connector on Scanner



On the video conferencing unit, connect the phono style socket to the connection marked 'Video in 3' located on the front of the shelf.

Turning the System On

To turn the system on, the main power switch is located on the base unit next to the 13 amp power inlet. (See picture on page 4.)

Additional power switches are located on the back of the codec (the main camera unit) and on the side of the monitors. If anything fails to operate when the unit is turned on, please check these switches to ensure they have not inadvertently been switched off.

Monitor Power Switch



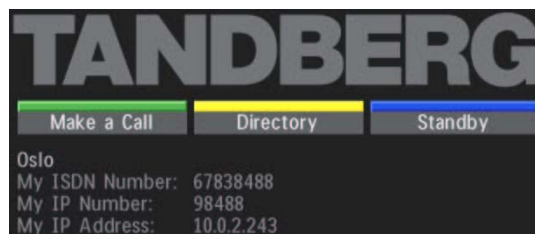
Codec Power Switch



Basic Operation

System Start-up

If the system has been left on, it will be in standby mode. Picking up the remote control handset or pressing any key on it will wake the system up. You should now see the welcome menu on the screen.



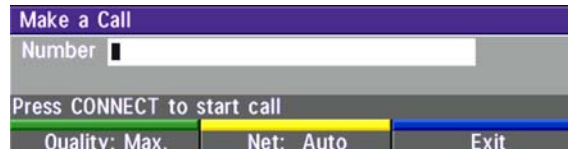
The Remote Control

The system's most commonly used functions are accessible directly from the remote control handset by single key presses. More advanced functions are available through an on screen menu system.



Making a Call

To make a call, press the green quick key when the Tandberg welcome menu is on screen. The following box is displayed.



Type the number you wish to dial into the box then press the green connect button.



If you make any mistakes when typing in the numbers use the delete key.



If you are typing in a computer style IP address such as 10.249.2.87 the numbers should be separated by pressing the * key on the remote control. The number will then be displayed as 10*249*2*87

Ending a Call

To end a call press the red disconnect key



Answering a Call

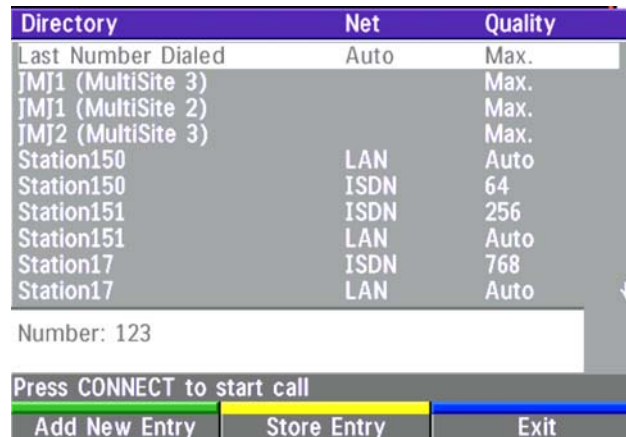
If your system is set not to automatically accept incoming calls, when the system rings you should press the green connect button to accept the incoming call.

Using the Directory

The directory is a local phone book that stores pre-programmed numbers.

To access the directory press the yellow button when the welcome menu is displayed.

When the directory is displayed on screen, use the arrow keys to scroll up and down the list. When the number you wish to call is highlighted simply press the green connect button.



If you wish to add your own directory entries, select 'Add New Entry' by pressing the green button. This brings up an empty directory entry.

Use the number keys to enter a name for the entry (just like texting using a mobile phone) then use the arrow keys to highlight the number box. Enter the number you wish to store. This can be either an ISDN number or a computer IP address. The remaining fields can be left at their default values. When you have finished press the green button to store the entry.



General Use

Adjusting the Volume

Press the volume key to adjust the volume level. An on-screen indicator will show the current level.



If the volume is turned completely off the following symbol is shown on screen.



Microphone On/Off

To mute your microphone during a call, press the mic off button. To turn it back on, press the button again.



When the mic is switched off an on screen indicator will appear. A message will also be shown on the remote system indicating that your mic is off.



Controlling the Camera

To move the main camera, press the arrow keys for pan and tilt.



Use the zoom key for zooming in on an area



It is also possible to control the camera at the remote site. To turn on this function press the far end button. A banner on the screen indicates that far end control is on. Use the arrow and zoom keys to move the far end camera. When you are finished press the far end button again to resume controlling your own camera.

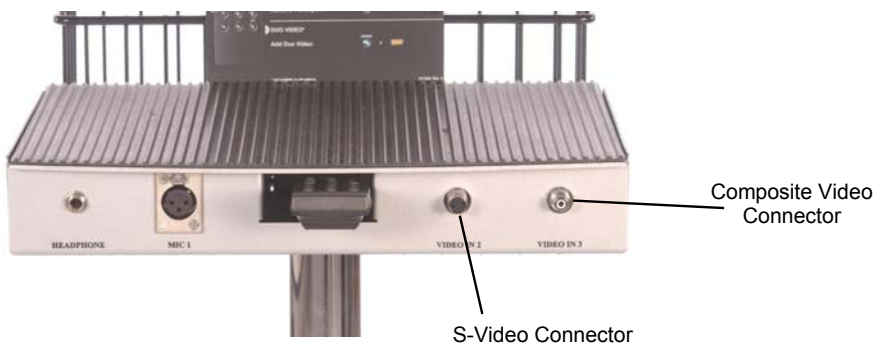


Sending an Alternative Video Source

Connecting Different Sources

The Intern II is capable of sending pictures from different video sources. These could be an ultrasound scanner, a hand held video camera, a PC or laptop or any other video source with either a composite or s-video connection.

To connect a composite or s-video source, use an appropriate cable to connect the device into one of the connectors located on the front of the shelf.



To connect a PC or laptop to the system, use the VGA cable supplied to connect the video out from the PC to the VGA In Socket on the codec.

Please note that only certain screen resolutions are supported. Currently the maximum resolution supported is XGA, 1024 x 768 running at 60, 70 or 75 Hz.



Selecting the Video Source

To send pictures from the alternative video source press the video source button corresponding to the one you want to send.

(If you are not sure which one to press simply press the buttons in sequence. When you press the correct one the image will appear on the screen.)

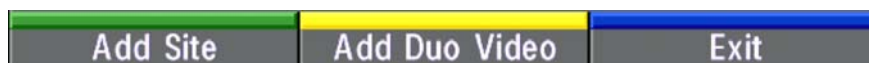


When you want to return to the main camera, simply press the main cam button.

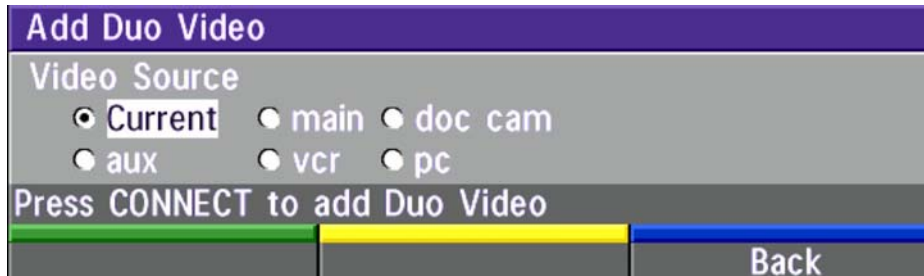
Using DuoVideo

If you are connected to a compatible system and want to send pictures from the main camera and an alternative source at the same time it is possible to send two streams of video at the same time by using 'DuoVideo'.

To activate DuoVideo start your call in the normal way. When the call is connected using the main camera press the green connect button. This brings up the following menu on screen.



Press the yellow button to add DuoVideo. The following menu is displayed.



Use the arrow keys to select the appropriate source then press the green connect button.

To end a DuoVideo call press the red disconnect button, then select if you want to disconnect only the DuoVideo call or the whole connection.

It should be noted that when using DuoVideo the available bandwidth for the connection is split between the two video stream, hence the call quality for each image will be reduced. When sending images for medical diagnosis it is recommended that the maximum image quality is maintained and DuoVideo not used.

Telemedicine Duty of Care

Referring Clinician ('the Referrer')

The Referrer should be a qualified consultant. In some cases referrals may be made by a specialist registrar, however permission must be given in each case by the consultant in charge.

Receiving Clinician ('the Receiver')

The Receiver should be a qualified consultant based at a tertiary hospital.

Responsibility of Care

At all times the patient is the responsibility of the staff in the hospital where the child is an in-patient. Should a patient be transferred to another hospital, normal procedures for the change in responsibility will apply.

Telemedicine Evaluation

As part of our funding bid we undertook to carry out a formal review of the telemedicine process. Your support in collecting information for this review is greatly appreciated.

Parental Consent

In order to take part in the evaluation Parental Consent must be obtained. The consent form details to the parents what is involved and provides contact details for further information. When completed the consent form should be faxed back to Hazel Archer on 0141 201 0858.

Patient Groups for Inclusion in the Evaluation Process

Neonates with surgical problems. Problems may be acute, sub-acute or elective.

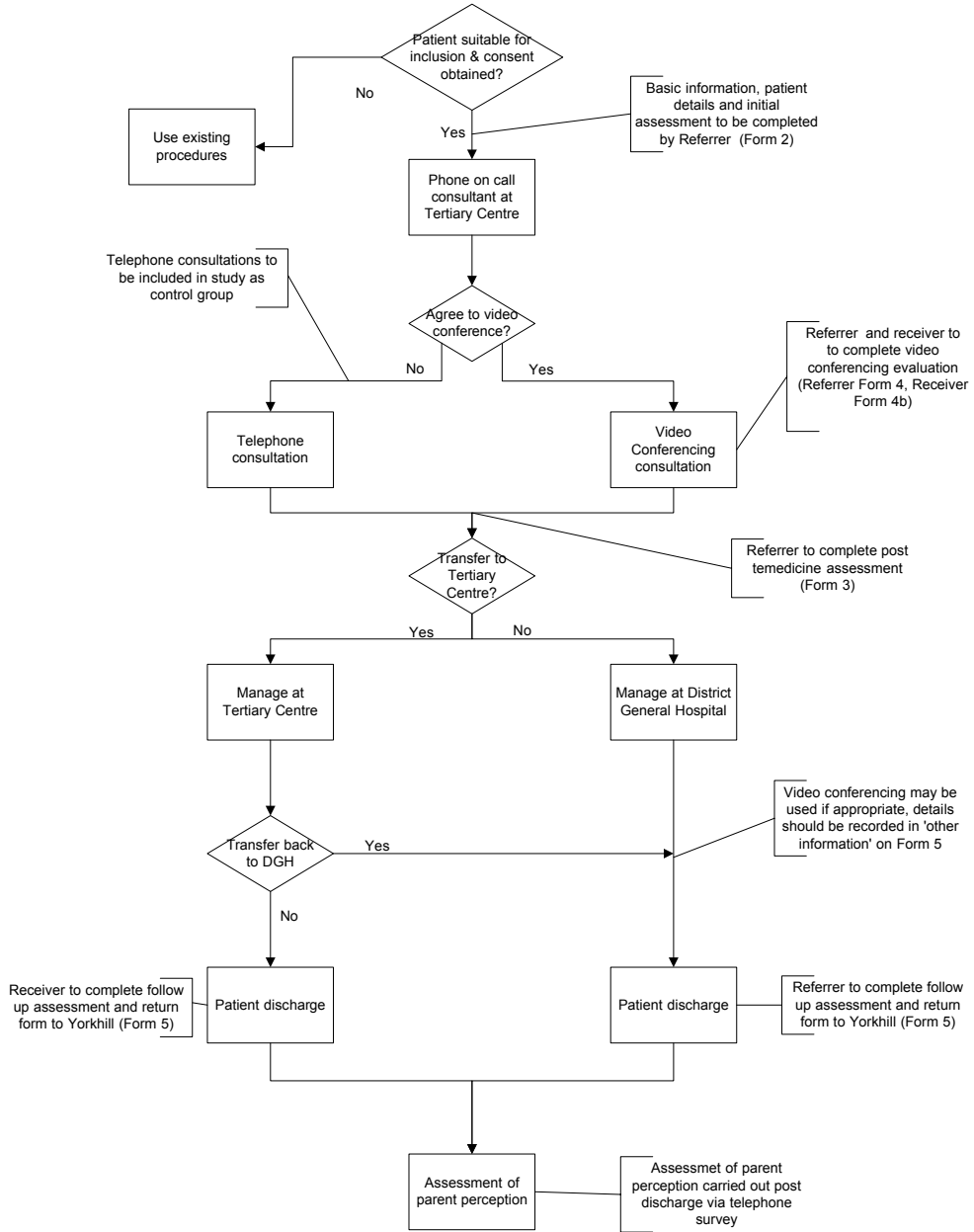
Children with cardiac problems. Problems may be acute, sub-acute or elective.

All patients must be hospital in-patients at the time of inclusion.

Process Flowchart

The following flowchart details the steps involved in the process and what evaluation forms should be completed by the Referrer and the Receiver.

Paediatric Telemedicine Flowchart



Completion of Evaluation Forms

Forms are available in two versions. The standard version is a word format document that should be printed and completed by hand. Completed forms should be returned by fax for the attention of Hazel Archer to 0141 201 0858. Copies of the forms are also available in hard copy in the folder located with the system.

An on-line form is also available. These are word documents which can be opened in MS Word and the appropriate fields typed in. After saving the document e-mail a copy of the form to hazel.archer@yorkhill.scot.nhs.uk

Forms can be downloaded from the project website at:

<http://www.show.scot.nhs.uk/yorkhill/telemedicine/filedownload.htm>

When completing the forms please allocate a unique 'Patient Reference Number' as follows:

Site / date of initial consultation / number of patient that day

- Site
 - A – Ayrshire Central
 - W – Wishaw
 - N – Ninewells
 - P – Princess Royal
 - R – Raigmore
 - Ab – Aberdeen Childrens Hospital
 - E – Edinburgh Sick Kids
 - S – Simpson
 - F – Forth Valley
- Date of initial telemedicine consultation eg 290204
- Number of patient that day, eg 3 would be the third patient referred by telemedicine that day

For example A/290204/3 would be the third patient discussed on 29th Feb 2004 from Ayrshire

Troubleshooting Guide

The unit will not switch on

Make sure all the individual components are switched on. Switches are located on the base unit next to the 13amp inlet, on the coded and on the side of the monitors

There is no picture on screen

Make sure the monitor is switch on, there should be green light showing. If you see a red light press the monitor power switch on the right hand edge of the screen. If the monitor still does not switch on, pull the 13 amp socket from the wall, wait a minute, then start again.

Ensure that the correct video source is selected by pressing the main cam button.

It is also worth remembering that cameras don't work in the dark, so if you have the lights down low to get a good view of the screen the audience at the other side will get poor pictures of you.

There is no sound

Make sure the volume is turned up and neither microphone is muted.

If there is still no sound look at the back of the codec to make sure the audio cables are connected. (This may have been disconnected if the unit was last used with external speakers.) If the cable is dangling, check the label on the cable and connect it to the correct socket. After connecting the cable, restart the system.

The system will only connect at a low bandwidth

Make sure the ISDN cables are securely plugged in and attached in the correct order, then try again.

Contact Details

If you have any queries regarding the telemedicine project please contact:

Hazel Archer
Telemedicine Project Manager
Yorkhill Hospital
Dalnair St
Glasgow
G3 8SJ

Tel: 0141 201 0460
E-Mail: hazel.archer@yorkhill.scot.nhs.uk

For technical support, in the first instance, please contact Hazel Archer on the above number. If the problem is urgent and she is not available, alternatively contact:

NuVideo Helpdesk
Tel: 01383 841200

Information about the project is also available on the project website:

www.show.scot.nhs.uk/yorkhill/telemedicine/telemedicine.htm